

FISH SURVEY OF HYDERABAD STATE.

Part II—Fishes of Hyderabad City and its suburbs.

BY

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Hyderabad City and its suburbs, popularly known as Balda and Atraf-i-balda district, are situated about in the centre of the State. It is surrounded by the districts of Medak and Karimnagar on the north, Mahboobnagar on the South, Nalgonda on the east, Gulbarga on the west and Bidar on the north-east. Its total area is 3,399 sq. miles, including the city of Hyderabad (26 sq. miles). The country is mostly hilly with a few wooded hills, known as the Rajkonda range, extending upto Nalgonda district. Another is the Anantgiri range extending from Mahboobnagar to Dharur near Vikarabad. A large portion of this range is composed of high level laterite; and isolated granite hills are seen everywhere amongst which Moula Ali, the Golconda rock and the Black rock of Trimulgherry are of special interest.

The most important river is the Musi, rising in the Anantgiri hills. It passes through the city and falls into the river Kistna near Wazirabad in the Nalgonda district. The river Manjra touches the district on the N.-W. side. Other smaller streams are the Sakalvani, Haldi, Deo, and the Eesi river.

The geological formation is Archaean Gneiss; tors and boulders of fantastic shapes are seen everywhere, composed of basalt and granite piled up in picturesque confusion.

Series of dams have been formed in the Musi and Eesi, and there are 143 large and about 300 small tanks; but most of the tanks hold water only for about 8 months in the year, some are in disrepair and if properly maintained may become sources of perennial supply. Here, I will deal only with some important perennial reservoirs.

The rainfall is only 30" and the temperature 62°-96° but it sometimes reaches even 108°. Population including Secunderabad is 16,53,249; number of fishermen 41,463.

Himayatsagar, with a water spread of 14.7 sq. miles is situated south-west of the city about 12 miles away. It is a dam of the Eesi river and two big 'nalas' also fall into it; its water is taken into the Meer-Alam tank by means of a channel and then supplied to the old part of the city. The margins are weedy, but the bottom is full of submerged boulders. The dam is 7,463 feet long with 17 automatic flood gates.

The methods of fishing are very primitive and practised in shallow water; fishing is done by means of long lines also, but owing to the presence of otters very few fishes are found intact in the morning when the line is taken out;

usually only the heads remain on the hooks. This reservoir contains much fish, and below is given the list of fishes obtained during the survey :

<i>Notopterus notopterus</i> (Pallas).	<i>Cirrhina reba</i> (Ham.)
<i>Notopterus</i> sp. nov.	<i>Labeo calbasu</i> (Ham.).
<i>Mastacembelus armatus</i> (Lacép.).	<i>Labeo fimbriata</i> (Bl.).
<i>Chela clupeioides</i> (Bloch).	<i>Glossogobius giuris</i> (Ham.).
<i>Rasbora daniconius</i> (Ham.).	<i>Ophicephalus marulius</i> Ham.
<i>Barbus (Puntius) kolas</i> (Sykes).	<i>Ophicephalus striatus</i> Bl.
<i>Barbus (Puntius) sarana</i> (Ham.).	<i>Heteropneustes fossilis</i> (Bloch).
<i>Barbus (Puntius) sophore</i> (Ham.).	<i>Wallagonia attu</i> (Bl.).
<i>Barbus (Puntius) ticto</i> (Ham.).	

Osmanagar (water spread area 16.22 sq. miles), about 11 miles west of the city, is the main source of water supply. The bottom is full of boulders; vegetation is scanty. It is formed by damming the Musi river which is a tributary of the Kistna. The dam is 6,300 ft. long with 45 flood gates. The water level in this reservoir has gone down considerably during the last five years owing to scanty rainfall. The predominant fishes are the two varieties of carps, *Labeo calbasu* Ham. and *Labeo fimbriata* (Bl.). It is not open for netting; only angling is allowed.

List of fishes obtained :

<i>Notopterus notopterus</i> (Pallas).	<i>Labeo boggut</i> (Sykes).
<i>Notopterus</i> sp. nov.	<i>Labeo calbasu</i> Ham.
<i>Mastacembelus armatus</i> (Lacép.).	<i>Labeo fimbriata</i> (Bl.).
<i>Chela clupeioides</i> (Bl.).	<i>Labeo potail</i> (Sykes).
<i>Barilius barna</i> (Ham.)	<i>Glossogobius giuris</i> (Ham.).
<i>Barilius bendelisis</i> Ham.	<i>Ophicephalus marulius</i> Ham.
<i>Rasbora daniconius</i> (Ham.).	<i>Thynnichthys sandkhol</i> (Sykes).
<i>Barbus (Puntius) sarana</i> (Ham.).	<i>Rohtee belangeri</i> Cuv. & Val.
<i>Barbus (Puntius) ticto</i> Ham.	<i>Callichrous bimaculatus</i> (Bloch).
<i>Cirrhina reba</i> (Ham.).	

Meer-Alam tank is about 4 miles south west of the city, and is a beautiful sheet of water; it is 8 miles in circumference. The dam consists of a series of 21 semi-circular retaining walls with their convex sides facing the water; its total length is 1,120 yards, and it was constructed by French engineers at a cost of 8 lakhs, during the time of Nawab Meer Alam; it is the main source of water supply to the old city. The margins are very weedy but the deeper parts are devoid of vegetation. It is noted for its rohu (*Labeo calbasu*) Ham. and 'phool-murrel', *Ophicephalus marulius* Ham. Only angling is allowed, but being near the city it is a great attraction for poachers.

Fishes obtained during survey :

<i>Notopterus notopterus</i> (Pallas).	<i>Glossogobius giuris</i> (Ham.).
<i>Notopterus</i> sp. nov.	<i>Rohtee cotio</i> var. <i>cunna</i> Day.
<i>Mastacembelus armatus</i> (Lacép.).	<i>Ophicephalus marulius</i> Ham.
<i>Rasbora daniconius</i> (Ham.).	<i>Ophicephalus punctatus</i> Bl.
<i>Barbus (Puntius) kolas</i> (Sykes).	<i>Ophicephalus striatus</i> Bl.
<i>Barbus (Puntius) sarana</i> (Ham.).	<i>Callichrous malabaricus</i> C.V.
<i>Barbus (Puntius) sophore</i> (Ham.).	<i>Heteropneustes fossilis</i> (Bloch.).
<i>Barbus (Puntius) ticto</i> (Ham.).	<i>Clarias batrachus</i> Linn.
<i>Labeo calbasu</i> Ham.	<i>Wallagonia attu</i> (Bloch).

Hosainsagar is a large sheet of water which when full extends over an area of 8 sq. miles; it lies between Secunderabad and Hyderabad. It supplies unfiltered water to the Osmania University and to gardens of Hyderabad and Secunderabad. The dam is 2,500 yds. long and forms the road between the two cities. It was built by Sultan Ibrahim Kutb Shah about 1575 A.D. It is fed by 'Balkapur nala' running from the river Musi near Shankerpalli, and a small feeder channel known as 'Begampet nala' brings flood water from the adjacent hills during the rains. The stocking of the reservoir is not satisfactory, and if artificial means are not resorted to the finny population will gradually diminish and the rentals will fall within a few years. If the fisheries of this reservoir are developed on proper scientific lines they can be a great source of supply to the city markets.

It contains much vegetation, and its 'rohu' (*Labeo calbasu* Ham.) is of excellent taste. Other fishes are :

<i>Mastacembelus armatus</i> (Lacép).	<i>Brachydanio terio</i> (Ham.).
<i>Mastacembelus pancalus</i> (Ham.).	<i>Labeo calbasu</i> Ham.
<i>Chela clupeoides</i> (Bloch).	<i>Labeo fimbriata</i> (Bl.).
<i>Rasbora daniconius</i> (Ham.).	<i>Glossogobius giuris</i> (Ham.).
<i>Rasbora buchanani</i> Bl.	<i>Ophicephalus gachua</i> Ham.
<i>Barbus (Puntius) dorsalis</i> (Jerdon).	<i>Ophicephalus marulius</i> Ham.
<i>Barbus (Puntius) kolus</i> (Sykes).	<i>Ophicephalus punctatus</i> Bl.
<i>Barbus (Puntius) sarana</i> (Ham.).	<i>Ophicephalus striatus</i> Bl.
<i>Barbus (Puntius) sophore</i> Ham.	<i>Mystus vittatus</i> (Bloch).
<i>Barbus (Puntius) terio</i> (Ham.).	<i>Mystus cavasius</i> (Ham.)
<i>Barbus (Puntius) ticto</i> Ham.	<i>Wallagonia attu</i> (Bloch).

Danio aequipinnatus (McClelland). Young fry of *L. fimbriata* measuring 1"-2½" were obtained in the month of August from the upper reaches of 'Begumpet nala'.

Ibrahimpatan tank is about 20 miles from the city in the Baghat district, and has a water spread of about 6 miles when full. It was formerly fed by a channel from the river Musi but now this is in disrepair and hence the water level has gone down very low. It was noted for 'Murrel', but owing to the paucity of water it is being gradually overfished. At the time of the survey the water was very low and only about a sq. mile in area.

<i>Notopterus notopterus</i> (Pallas).	<i>Barbus (Puntius) ticto</i> Ham.
<i>Rasbora daniconius</i> Bl.	<i>Ophicephalus punctatus</i> Bl.
<i>Amblypharyngodon mola</i> (Ham.).	<i>Ophicephalus striatus</i> Bl.
<i>Barbus (Puntius) dorsalis</i> (Jerdon).	<i>Mystus vittatus</i> (Bloch).
<i>Barbus (Puntius) sophore</i> Ham.	

Notopterus sp. nov.

Notopterus sp., Rahimullah and Das.

Bull. Soc. Portug., Vol. XII, No. 18, pp. 135-141.

It is found in large numbers along with *Notopterus notopterus* (Pallas) but differs from it in many characters. Below I give the fin formula and other characters which identify it as a new species.

B = VII; D = 8-10; P = 14-15; V = 5; A + C = 101-117; Ll. % 180.

A distinct concavity on the head: (no concavity in *N. notopterus*); serrations exist along the lower surface of the preorbital, 28-31 serrations; the maxilla extends from ½ to 2/3 of the diameter of the orbit, and below the latter; the dorsal fin commences much nearer to the tail fin than to the snout.

The characters are intermediate between those of *N. notopterus* (*N. kopirat*) and *N. chitala* Day.

Labeo calbasu Ham.

Labeo calbasu (Ham. Buch.) Day, *Fauna Brit. Ind.*, Vol. I, pp. 259-260.

Day has described the colour as blackish; sometimes, especially in examples from clear streams, many of the scales have a scarlet centre.

The colouration was noted in fresh specimens from the same locality, and two varieties have been obtained; one is more or less black and the spots on the scales are not very distinct, but in the other variety the colour is silvery with scarlet spots on the scales, whilst in *L. fimbriata* there are orange blotches on some scales,

Brachydanio rerio (Ham.)

Brachydanio rerio, Prashad and Mukherji, *Rec. In. Mus.*, Vol. xxxi, pt. iii, pp. 206-208.

Brachydanio rerio, Hora, *Ibid.*, Vol. xxxix, pt. I, pp. 8 and 15.

Brachydanio rerio, Bhimachar and Rau, *J. Mys. Un.*, Vol. 1, pt. xvi, pp. 146 and 152.

The specimens were collected in large numbers from Hosain-sagar and its feeders. They agree in all characters with those described by Bhimachar and Rau. Lateral line and lateral line organs are absent. The fins are diaphanous. Upper half of the body is yellow and there are five steel-blue bands separated by yellow ones in the upper and by silvery bands in the lower half. Four horizontal bands on the anal, 3 distinct and two lighter ones on the caudal; pectoral and ventral fins yellowish. It has proved to be a very good larvicidal fish.

Thynnichthys sandkhol (Sykes).

Thynnichthys sandkhol, Day, *Fauna. Brit. Ind.*, Vol. I, p. 289.

Length of head $4\frac{3}{4}$, height of body $3\frac{3}{4}$ in the total length. Eye 4 in the length of the head, 2 diameters apart.

In colouration and other respects it is the same as described by Day.

Rohtee belangeri (Cuv. & Val.).

Rohtee belangeri, Day, *Fauna. Brit. Ind.*, Vol. I, p. 342.

It differs in its measurements from those given by Day.

Length of head 7, height of body $2\frac{3}{4}$ in the total length. Eye: head— $3\frac{1}{2}$, $1\frac{3}{4}$ diameters from end of snout $2\frac{3}{4}$ diameters apart.

This fish is commonly found in all parts of the dominions.

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